

g f e d c b a

(79) $\leftarrow E = 1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 1$

(68) $\leftarrow L = 0 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0$

(77) $\leftarrow A = 1 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1$

Q1. A 2-bit number X is represented by 2 switches connected to port PC0 and PC1 of the PPI.

Another 2-bit number Y is represented by 2 switches connected to port PC6 and PC7.

A common cathode 7-segment display is connected to port B of the PPI.

Write an optimum program to:

display E when $X = Y$

display L when $X < Y$

display A when $X > Y$

a
f | b
e | c
d

Common Cathode \rightarrow "1" turns on

MOV DX, 0FFEH ; control reg. address

MOV AL, 89 ; PC as i/p PB o/p

OUT DX, AL ; initialize PPI

BACK: MOV DX, 0FFEH ; Port C address

IN AL, DX ; Read switches

MOV AH, AL ; save a copy

AND AL, 03 ; clear ~~c2~~ c2 to c7 bits \rightarrow 000000XX

MOV CL, 6

SHR AH, CL ; now AH = 000000YY

MOV DX, 0FFEH ; PORT B

MOV AL, AH

CMP EE

JB LL

MOV AL, 77 ; H code

NEXT: OUT DX, AL

JMP BACK ; E code

EE: MOV AL, 79

JMP NEXT ; L code

LL: MOV AL, 68

JMP NEXT

